

According to a November 1998 survey of compensation in the human resources field, conducted by Abbott, Langer, and Associates of Crete, Illinois, the median total cash compensation for selected personnel and labor relations occupations were:

Industrial and labor relations directors .....	\$183,900
Compensation and benefits directors .....	88,000
Divisional human resources directors .....	84,100
Training directors .....	79,400
Recruitment and interviewing managers .....	75,100
Employee and community relations directors .....	73,500
Plant/location human resources managers .....	62,000
Compensation supervisors .....	53,300
Human resources information systems specialists .....	49,300
Employee assistance and employee counseling specialists .....	47,500
Employee services and employee recreation specialists .....	47,300
Employee and industrial plant nurses .....	46,000
EEO and affirmative action specialists .....	44,800
Safety specialists .....	43,700
Training material development specialists .....	43,500
Benefits specialists (managerial and professional jobs) .....	41,500
Training generalists (computer) .....	39,600
Classroom instructors .....	35,300
Employment interviewing specialists .....	35,100
Job evaluation specialists .....	34,100
Human resources records specialists .....	32,400

In the Federal Government, persons with a bachelor's degree or 3 years' general experience in the personnel field generally started at \$23,300 a year in 1999. Those with a superior academic record or an additional year of specialized experience started at \$28,000 a year. Those with a master's degree may start at \$33,400, and those with a doctorate in a personnel field may start at \$44,500. Beginning salaries were slightly higher in areas where the prevailing local pay level was higher. There are no formal entry-level requirements for managerial positions. Applicants must possess a suitable combination of educational attainment, experience, and record of accomplishment.

### Related Occupations

All human resources occupations are closely related. Other workers with skills and expertise in interpersonal relations include counselors, lawyers, psychologists, sociologists, social workers, public relations specialists, and teachers. These occupations are described elsewhere in the *Handbook*.

### Sources of Additional Information

For information about careers in employee training and development, contact:

• American Society for Training and Development, 1640 King St., Box 1443, Alexandria, VA 22313. Internet: <http://www.astd.org>

For information about careers and certification in employee compensation and benefits, contact:

• American Compensation Association, 14040 Northlight Blvd., Scottsdale, AZ 85260. Internet: <http://www.acaonline.org>

Information about careers and certification in employee benefits is available from:

• International Foundation of Employee Benefit Plans, 18700 W. Bluemound Rd., P.O. Box 69, Brookfield, WI 53008-0069. Internet: <http://www.ifebp.org>

For information about academic programs in industrial relations, write to:

• Industrial Relations Research Association, University of Wisconsin, 7226 Social Science Bldg., 1180 Observatory Dr., Madison, WI 53706. Internet: <http://www.irra.ssc.wisc.edu>

Information about personnel careers in the health care industry is available from:

• American Society for Healthcare Human Resources Administration, One North Franklin, 31st Floor, Chicago, IL 60606. Internet: <http://www.ashhra.org>



*Industrial production managers plan the production schedule within budgetary limitations and time constraints.*

## Industrial Production Managers

(O\*NET 15014)

### Significant Points

- The projected decline in employment reflects increasing productivity and organizational restructuring.
- Applicants with college degrees in industrial engineering, management, or business administration, and particularly those with an undergraduate engineering degree and a master's degree in business administration, enjoy the best job prospects.

### Nature of the Work

Industrial production managers coordinate the resources and activities required to produce millions of goods every year in the United States. Although their duties vary from plant to plant, industrial production managers share many of the same major responsibilities. These include production scheduling, staffing, equipment, quality control, inventory control, and the coordination of production activities with those of other departments.

The primary mission of industrial production managers is planning the production schedule within budgetary limitations and time constraints. This entails analyzing the plant's personnel and capital resources to select the best way of meeting the production quota. Industrial production managers determine which machines will be used, whether overtime or extra shifts are necessary, and the sequence of production. They also monitor the production run to make sure that it stays on schedule and correct any problems that may arise.

Industrial production managers must also monitor product standards. When quality drops below the established standard, they must determine why standards are not being maintained and how to improve the product. If the problem is poor work, the manager may implement better training programs, reorganize the manufacturing process, or institute employee suggestion or involvement programs. If the

cause is substandard materials, the manager works with the purchasing department to improve the quality of the product's components.

Because the work of many departments is interrelated, managers work closely with heads of other departments such as sales, purchasing, and traffic to plan and implement company goals, policies, and procedures. For example, the production manager works with the purchasing department to ensure that plant inventories are maintained at their optimal level. This is vital to a firm's operation because maintaining the inventory of materials necessary for production ties up the firm's financial resources, yet insufficient quantities cause delays in production. A breakdown in communications between the production manager and the purchasing department can cause slowdowns and a failure to meet production schedules. Computers are important in this coordination, and also in providing up-to-date information on inventory, work-in-progress, and quality standards.

Production managers usually report to the plant manager or the vice president for manufacturing, and may act as liaison between executives and first-line supervisors. (Information about these workers can be found in the statements on general managers and top executives, and blue-collar worker supervisors, elsewhere in the *Handbook*). In many plants, one production manager is responsible for all aspects of production. In large plants with several operations—aircraft assembly, for example—there are managers in charge of each operation, such as machining, assembly, or finishing.

**Working Conditions**

Most industrial production managers divide their time between the shop floor and their offices. While on the floor, they must follow established health and safety practices and wear the required protective clothing and equipment. The time in the office, which is often located on or near the production floor, is usually spent meeting with subordinates or other department managers, analyzing production data, and writing and reviewing reports.

Most industrial production managers work more than 40 hours a week, especially when production deadlines must be met. In facilities that operate around the clock, managers often work late shifts and may be called at any hour to deal with emergencies. This could mean going to the plant to resolve the problem, regardless of the hour, and staying until the situation is under control. Dealing with production workers as well as superiors when working under the pressure of production deadlines or emergency situations can be stressful. Restructuring has eliminated levels of management and support staff, which shifts more responsibilities to production managers and compounds this stress.

**Employment**

Industrial production managers held about 208,000 jobs in 1998. Although employed throughout the manufacturing sector, about one half are employed in firms that produce industrial machinery and equipment, transportation equipment, electronic and electrical equipment, fabricated metal products, instruments and related products, and food products. Production managers work in all parts of the country, but jobs are most plentiful in areas where manufacturing is concentrated.

**Training, Other Qualifications, and Advancement**

Because of the diversity of manufacturing operations and job requirements, there is no standard preparation for this occupation. Many industrial production managers have a college degree in business administration, management, or industrial engineering. Others have a master's degree in business administration (MBA). Some are former production line supervisors who have been promoted. Although many employers prefer candidates with a business or engineering background, some companies hire well-rounded liberal arts graduates.

As production operations become more sophisticated, an increasing number of employers are looking for candidates with MBAs. Combined with an undergraduate degree in engineering, this is considered particularly good preparation. Companies also are placing greater importance on a candidate's personality. Because the job requires the

ability to compromise, persuade, and negotiate, successful production managers must be well-rounded and have excellent communication skills.

Those who enter the field directly from college or graduate school often are unfamiliar with the firm's production process. As a result, they may spend their first few months on the job in the company's training program. These programs familiarize trainees with the production line, company policies, and the requirements of the job. In larger companies, they may also include assignments to other departments, such as purchasing and accounting. A number of companies hire college graduates as blue-collar worker supervisors and later promote them.

Some industrial production managers have worked their way up the ranks, perhaps after having worked as blue-collar worker supervisors. These workers already have an intimate knowledge of the production process and the firm's organization. To be selected for promotion, they must have demonstrated leadership qualities and usually have taken company-sponsored courses in management skills and communication techniques.

In addition to formal training, industrial production managers must keep informed of new production technologies and management practices. Many belong to professional organizations and attend trade shows where new equipment is displayed; they also attend industry conferences and conventions where changes in production methods and technological advances are discussed.

Industrial production managers with a proven record of superior performance may advance to plant manager or vice president for manufacturing. Others transfer to jobs at larger firms with more responsibilities. Opportunities also exist as consultants. (For more information, see the statement on management analysts elsewhere in the *Handbook*.)

**Job Outlook**

Employment of industrial production managers is expected to decline slightly through 2008. However, a number of job openings will stem from the need to replace workers who transfer to other occupations or leave the labor force. Applicants with a college degree in industrial engineering, management, or business administration, and particularly those with an undergraduate engineering degree and a master's degree in business administration, enjoy the best job prospects. Employers also are likely to seek candidates who have excellent communication skills, and who are personable, flexible, and eager to enhance their knowledge and skills through ongoing training.

Although manufacturing output is projected to rise, growing productivity among production managers and organizational restructuring will limit the demand for these workers. Productivity gains will result from the increasing use of computers for scheduling, planning, and coordination. Scheduling or planning has become less important as manufacturers have become more responsive to changing demand. In addition, a growing emphasis on quality in the production process has redistributed some of the production manager's oversight responsibilities to supervisors and workers on the production line. Because production managers are so essential to the efficient operation of a plant, they have not been greatly affected by recent efforts to flatten management structures. Nevertheless, this trend has led production managers to assume more responsibilities and has discouraged the creation of more employment opportunities.

**Earnings**

Median annual earnings for industrial production managers in 1998 were \$56,320. The middle 50 percent earned between \$41,300 and \$79,830. The lowest 10 percent earned less than \$31,790 and the highest 10 percent earned more than \$97,310. Median annual earnings in the manufacturing industries employing the largest numbers of industrial production managers in 1997 were

Motor vehicles .....	\$68,700
Electronic components and accessories .....	59,700
Miscellaneous plastics products, not elsewhere classified .....	48,500
Fabricated structural metal products .....	46,400
Commercial printing .....	45,800

Salaries of industrial production managers vary significantly by industry and plant size. According to Abbott, Langer, and Associates, the average salary for all production managers was \$50,400 in 1998. In addition to salary, industrial production managers may receive bonuses based on job performance.

### Related Occupations

Industrial production managers oversee production staff and equipment, insure that production goals and quality standards are being met, and implement company policies. Individuals with similar functions include materials, operations, purchasing, and transportation managers. Other occupations requiring similar training and skills are sales engineer, manufacturer's sales representative, materials engineer, and industrial engineer.

### Sources of Additional Information

Information on industrial production management can be obtained from:  
 • National Management Association, 2210 Arbor Blvd., Dayton, OH 45439. Internet: <http://www.nma1.org>  
 • American Management Association, 1601 Broadway, 10<sup>th</sup> Floor, New York, NY 10019. Internet: <http://www.amanet.org>

## Inspectors and Compliance Officers, Except Construction

(O\*NET 21911A, 21911B, 21911D, 21911E, 21911F, 21911H, 21911J, 21911L, 21911P, 21911R, and 21911T)

### Significant Points

- About 4 out of 5 inspection and compliance jobs are in Federal, State, and local government agencies that enforce rules on health, safety, food quality, licensing, and finance.
- Because of the diversity of functions they perform, job qualifications vary widely.

### Nature of the Work

Inspectors and compliance officers help to keep workplaces safe, food healthy, and the environment clean. They also ensure that workers' rights are recognized in a variety of settings. These workers enforce rules on matters as diverse as health, safety, food quality, licensing, and finance. As the following occupations demonstrate, their duties vary widely, depending on their area of responsibility and level of experience.

*Aviation safety inspectors* work for the Federal Aviation Administration (FAA) and oversee the avionics, maintenance, and operations of air carriers and similar establishments. They evaluate technicians, pilots, and other personnel; assess facilities and training programs; inspect aircraft and related equipment for airworthiness, and investigate and report on accidents and violations.

*Bank examiners* investigate financial institutions concerning compliance with Federal or State charters and regulations governing the institution's operations and solvency. Examiners schedule audits to protect the institution's shareholders and the interests of depositors. They recommend acceptance or rejection of applications for mergers and acquisitions, and testify as to the viability of chartering new institutions. They interview officials in the firm or other persons with knowledge of the bank's operations, review financial reports, and identify deficiencies and deviations from Federal and State laws.

*Consumer safety inspectors and officers* inspect food, feeds, pesticides, weights and measures, biological products, cosmetics, drugs, medical equipment, and radiation emitting products. Working individually or in teams under a senior inspector, they check on firms that use, produce, handle, store, or market products they regulate. They ensure that standards are maintained and respond to

consumer complaints by questioning employees, vendors, and others to obtain evidence. Inspectors look for inaccurate product labeling, inaccurate scales, and for decomposition or chemical or bacteriological contamination that could result in a product becoming harmful to health. After completing their inspection, inspectors discuss their observations with plant managers or business owners to point out areas where corrective measures are needed. They write reports of their findings and compile evidence for use in court if legal action must be taken.

*Environmental health inspectors* work primarily for governments. They analyze substances in order to determine contamination or the presence of disease and investigate sources of contamination to try to ensure that food, water, and air meet government standards. They certify the purity of food and beverages produced in dairies and processing plants or served in restaurants, hospitals, and other institutions. Inspectors may find pollution sources through collection and analysis of air, water, or waste samples. When they determine the nature and cause of pollution, they initiate action to stop it and force the firm or individual who caused the pollutants to pay to clean it up.

*Equal opportunity specialists* enforce laws and regulations which prohibit discrimination on the basis of race, color, national origin, religion, sex, disability, and age in employment and the provision of services. They conduct on-site compliance reviews in accordance with agency and Department of Justice policy and regulations, gather facts related to allegations of discrimination, and make recommendations for resolving complaints. They then prepare statistical analysis and reports relative to implementation of civil rights and equal opportunity programs and refer cases to the legal system for adjudication when necessary.

*Food Inspectors* ensure that the product is fit for human consumption in compliance with Federal laws governing the wholesomeness and purity of meat and poultry products. This is accomplished through inspection involving a visual examination of the live animal or poultry prior to slaughter, and post-mortem inspection to determine that the product is not contaminated and that sanitation procedures are maintained. Processing food inspectors specialize in processed meat and poultry products, and all other ingredients contained in the final product, including frozen dinners, canned goods, and cured and smoked products. They have the authority to shut the plant down if there is a problem that they are unable to resolve.

*Mine safety and health inspectors* carry out the major operational mission of the Department of Labor's Mine Safety and Health Administration (MSHA). They primarily conduct on-site inspections or investigations of underground and surface mines, mills and quarries in search of conditions that are potentially hazardous to the safety and health of workers. They inspect to insure that equipment is properly maintained and used, and that mining practices are carried out in accordance with



*Qualifications for inspectors and compliance officers vary widely.*